

Appl. No. 09/289,000
Amdt. dated June 3, 2005
Reply to Office Action of April 5, 2005

PATENT

REMARKS/ARGUMENTS

Claims 1-6 and 24-26 are pending.

Applicant makes of record the telephone interviews between Examiner Prebilic and Mr. Seka, the undersigned, on June 2, 2005. During the telephone interviews, Mr. Seka pointed out the differences between the claims in the present application and the Stone patent, including the fact that Stone's implant cannot freely slidably move relative to the proposing cancellous bone, generally along the lines discussed herein. At the end of the interviews, Examiner Prebilic invited the undersigned to submit a Request for Reconsideration.

All claims were rejected under section 112 for a variety of formal deficiencies as noted on pages 2 and 3 of the Office Action.

Claim 26 has been reworded to replace "covering" with "covered by." The remaining suggestions to overcome the formal rejections and objections to the claims set forth in the Office Action have all been adopted.

In view thereof, Applicant submits that the claims are in full compliance with section 112 and the retraction of this rejection is requested.

Substantively, all claims were rejected for anticipation by Stone (5,306,311) or for obviousness over Stone in view of Cohen (5,207,712).

As is best seen in FIG. 9 of Stone, the prosthetic articular cartilage device, or implant, 10 is placed in a hole or cutout formed in cartilage 350 and is "tapped into place, down the pilot hole, obtaining a press fit. FIG. 9 shows the composite device in place in natural articular cartilage 350 and cancellous bone 450 (col. 15, lines 44-50; underlining added).

Col. 6, lines 3-13 explain the positioning and functioning of Stone's implant as follows:

In the embodiment of FIGS. 4A and 4B, the base component 20 includes a plurality of concentric (above axis 11) ridges 14 on its outer surface Ridges 14 of base component 20 secure immediate fixation (by friction) and impaction into the bone, permitting the softer matrix 12 [of the implant] to remain flush with the surface of the surrounding area existing articular cartilage

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of the bone into which the prosthetic device 12 is being implanted.
(Underlining added.)

The foregoing quotation from col. 6 of the Stone patent describes and fully supports what is shown in FIG. 9, namely that the implant 12 is disposed within a hole or cutout formed in cartilage 350. As a result, the implant is immovably anchored to the bone, by friction and impaction, while the exposed surface of the implant is flush with the surface of the remaining cartilage, all shown in FIG. 9.

When so implanted, the implant "allows for normal joint motion, is biomechanically able to withstand normal joint forces, and functions at those loads to protect the surrounding cartilage." (Col. 2, lines 51-54, underlining added.)

The bone surface in contact with the implant is formed by bone 450 (FIG. 9). As is stated in col. 6, lines 9-12, the implant is immediately fixed by friction and impaction. As a result, it would be impossible for the implant to move relative to the bone surface.

In this context, Applicant notes the observation in the Final Rejection that "slidable contact of the implant with the bone surface is considered inherent for the same reason that such contact is present in Applicant's surface." As the foregoing explanation of Stone demonstrates, slidable contact between the implant and the surface defined by bone 450 (FIG. 9) of Stone is not possible and, therefore, it cannot be inherent because the implant is immediately fixed by friction and impaction.

Applicant further notes the additional observation in the Final Rejection that "the Stone implant would inherently be able to rotate about its central axis while within the bone cavity because the threads thereon can be concentric or helical and self-tapping...."

Stone is clear in its disclosure, the implant is secured by immediate fixation (friction) and impaction into the bone or, in the alternative, by gluing or cementing (col. 5, lines 55-57). Immediate fixation by friction or cementing prevents rotation of the implant about its central axis. Moreover, if rotation of the central axis were possible, when the outer ridges 14 of the implant are helical or threads, rotation of the implant about its axis would necessarily raise or lower it. In either event, the implant could no longer "remain flush with the surface of the

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surrounding area existing cartilage of the bone" (col. 6, lines 11-13) as required by Stone "to protect the surrounding cartilage." (Col. 2, lines 53-54). If the implant could rotate the resulting elevational difference between the exposed surfaces of the implant and of the surrounding cartilage would interfere with the functioning of Stone's implant and render it inoperable. Stone does not disclose an inoperable implant because upon its fixation by friction or cementing, it no longer "would inherently be able to rotate about its central axis" as was asserted in the Final Rejection.

In any event, however, even if Stone's implant were able to rotate in this manner, which it does not, such rotation is not unlimited slidable motion between the implant and to the cancellous bone as required by the pending claims since under no circumstances could Stone's implant slidably move laterally.

Each independent claim in this application requires placing the implant between the second joint surface and the cancellous bone surface so that the face [of the implant] is "in slidable contact with the layer covering the cancellous bone surface ... while permitting unrestricted relative slidable motion between the face [of the implant] and to the cancellous bone surface including the layer covering it" as required by claim 1 and similar limitations in the other independent claims.

For purposes of the pending claims, the first and second mating joint surfaces recited in the preamble of the claims are the opposing joint surfaces at the ends of the respective bones. One of the joint surfaces, referred to as the first joint surface in the claims, is exposed cancellous bone surface which is covered by blood clot or hematoma.

The implant, which is placed between the first and second mating joint surfaces, has a face which faces and is therefore opposite the exposed cancellous bone surface, or the first joint surface in the terminology of the claims.

Following implantation, unrestricted relative slidable motion is permitted between the face of the implant [which faces the cancellous bone] and the exposed cancellous bone surface, i.e., the first joint surface in the terminology of the claims. Thus, the slidable motion

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permitted by the present invention as defined by the claims takes place between the face of the implant and the cancellous bone.

In Stone, no such motion takes place. The only contact between a face or surface of the implant and the cancellous bone is between the bone and the ridges of the implant base. They are fixed relative to each other and immovable, as was discussed above.

In use of Stone's implant, there will be slidable motion between the exposed surface of the implant, which is flush with the surface of the surrounding cartilage 350 (FIG. 9) and the articulating joint surface of the bone into which the implant is not implanted. However, Stone does not attempt to regenerate cartilage on the bone into which the implant is not implanted. Indeed, Stone has no disclosure with regard to what does or does not happen to the cartilage on the bone into which the implant is not fixed because that is of no concern to Stone. Stone is only interested in regenerating articulate cartilage within the hole or cutout in the natural cartilage as shown in FIG. 9 and described throughout the Stone patent.

Applicant submits that Stone does not anticipate the independent claims of this application because each of these claims requires unrestricted slidable motion between the cancellous bone and the surface (face) of the implant facing that surface.

The secondary reference, Cohen, has a stem extending to the opposing bones which prevents unrestricted relative slidable motions between the cancellous surface and the implant surface facing it as was recognized when the pending claims were allowed over Cohen in the Office Action dated March 9, 2004.

Pending claims 1-6 and 24-26 are therefore neither anticipated by nor obvious over Stone, taken alone or in combination with Cohen.


In view of the foregoing, Applicant submits that this application is in condition for allowance and requests a corresponding notification at an early date.

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If the Examiner believes that a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-273-4730 (direct dial).

Respectfully submitted,


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